

CLAIMS

1. An electronic display, comprising:
 - a nonemissive electro-optic display medium; and
 - a light transmissive element having a first surface, the first surface adjacent the nonemissive electro-optic display medium, wherein the propagation of light directed through the light transmissive element towards the nonemissive electro-optic display medium is substantially undeflected at the interface between the first surface and the nonemissive electro-optic display medium.
2. The electronic display of claim 1 wherein the nonemissive electro-optic display medium is selected from the group consisting of: an electrochromic display medium, a microcell electrophoretic display medium, and a rotating bichromal member display medium.
3. The electronic display of claim 1 wherein the nonemissive electro-optic display medium comprises a microencapsulated electrophoretic display medium.
4. The electronic display of claim 3 wherein the microencapsulated electrophoretic display medium comprises at least one capsule dispersed in a binder phase, the at least one capsule containing an electrophoretic contrast medium phase that includes at least one particle and suspending fluid.
5. The electronic display of claim 1 wherein the first surface of the light transmissive element comprises an electrically conductive coating.
6. The electronic display of claim 5 wherein the electrically conductive coating comprises indium tin oxide.
7. The electronic display of claim 1 wherein the nonemissive electro-optic display medium comprises a binder phase having a first index of refraction and wherein the light transmissive element has a second index of refraction, the second index of refraction being substantially equal to the first index of refraction.

8. The electronic display of claim 1 wherein the first surface of the light transmissive element is substantially planar.
9. The electronic display of claim 1 wherein the first surface of the light transmissive element is substantially void of surface elements.
10. The electronic display of claim 1 wherein the light transmissive element further has a second surface opposite the first surface, the second surface comprising a reflective coating for internal reflection of light towards the nonemissive electro-optic display medium.
11. The electronic display of claim 1 further comprising a substantially transparent substrate disposed between the light transmissive element and the nonemissive electro-optic display medium.
12. The electronic display of claim 11 wherein the substrate comprises an electrically conductive coating at the interface with the nonemissive electro-optic display medium.
13. The electronic display of claim 11 wherein the substrate has a first index of refraction and the light transmissive element has a second index of refraction, the first index of refraction being substantially equal to the second index of refraction.
14. The electronic display of claim 1 wherein the light transmissive element comprises:
 - a first component having a first surface; and
 - a second component having a second surface, wherein the second surface mates with the first surface so that the first component and the second component form a lens at the interface therebetween for facilitating substantially uniform illumination of the nonemissive electro-optic medium.
15. The electronic display of claim 14 wherein the first component and the second component have dissimilar indices of refraction.
16. The electronic display of claim 1 further comprising a light source for generating light for transmission through the light transmissive element, the light source in optical communication with the light transmissive element.

17. The electronic display of claim 16 wherein the light source is selected from the group consisting of a cold cathode fluorescent lamp, an SMT incandescent lamp, and a light emitting diode.
18. The electronic display of claim 16 wherein the light source is coupled to a photodetector.
19. The electronic display of claim 16 wherein the light source is activated when the level of ambient light drops below a predetermined value.
20. The electronic display of claim 16 further comprising a reflector for directing light from the light source through the light transmissive element.
21. The electronic display of claim 20 wherein the reflector comprises a non-planar surface of a predetermined configuration for facilitating substantially uniform illumination of the nonemissive electro-optic medium.
22. The electronic display of claim 20 wherein the surface of the reflector comprises a plurality of surface elements.
23. The electronic display of claim 20 further comprising an optical conduit disposed between the light source and the reflector.
24. The electronic display of claim 23 wherein the optical conduit comprises a lens internally formed therein.
25. An electronic display, comprising:
 - a nonemissive electro-optic display medium;
 - a light transmissive element having a first surface, the first surface adjacent the nonemissive electro-optic display medium;
 - a light source in optical communication with the light transmissive element;
 - a reflector for directing light from the light source through the light transmissive element, the reflector configured to facilitate substantially uniform illumination of the nonemissive electro-optic display medium.

26. The electronic display of claim 25 wherein the nonemissive electro-optic display medium is selected from the group consisting of: an electrochromic display medium, a microcell electrophoretic display medium, and a rotating bichromal member display medium.
27. The electronic display of claim 25 wherein the nonemissive electro-optic display medium comprises a microencapsulated electrophoretic display medium.
28. The electronic display of claim 27 wherein the microencapsulated electrophoretic display medium comprises at least one capsule dispersed in the binder phase, the at least one capsule containing an electrophoretic contrast medium phase that includes at least one particle and suspending fluid.
29. The electronic display of claim 25 wherein the first surface of the light transmissive element comprises an electrically conductive coating.
30. The electronic display of claim 29 wherein the electrically conductive coating comprises indium tin oxide.
31. The electronic display of claim 25 wherein the nonemissive electro-optic display medium comprises a binder phase having a first index of refraction and wherein the light transmissive element has a second index of refraction, the second index of refraction being substantially equal to the first index of refraction.
32. The electronic display of claim 25 wherein the first surface of the light transmissive element is substantially planar.
33. The electronic display of claim 25 wherein the first surface of the light transmissive element is substantially void of surface elements.
34. The electronic display of claim 25 wherein the light transmissive element further has a second surface opposite the first surface, the second surface comprising a reflective coating for internal reflection of light towards the nonemissive electro-optic display medium.

35. The electronic display of claim 25 further comprising a substantially transparent substrate disposed between the light transmissive element and the nonemissive electro-optic display medium.
36. The electronic display of claim 35 wherein the substrate comprises an electrically conductive coating at the interface with the nonemissive electro-optic display medium.
37. The electronic display of claim 35 wherein the substrate has a first index of refraction and the light transmissive element has a second index of refraction, the first index of refraction being substantially equal to the second index of refraction.
38. The electronic display of claim 25 wherein the light transmissive element comprises:
 - a first component having a first surface; and
 - a second component having a second surface, wherein the second surface mates with the first surface so that the first component and the second component form a lens at the interface therebetween for facilitating substantially uniform illumination of the nonemissive electro-optic medium.
39. The electronic display of claim 38 wherein the first component and the second component have dissimilar indices of refraction.
40. The electronic display of claim 25 wherein the light source is selected from the group consisting of a cold cathode fluorescent lamp, an SMT incandescent lamp, and a light emitting diode.
41. The electronic display of claim 25 wherein the light source is coupled to a photodetector.
42. The electronic display of claim 41 wherein the light source is activated when the level of ambient light drops below a predetermined value.
43. The electronic display of claim 25 wherein the reflector comprises a non-planar surface of a predetermined configuration.

44. The electronic display of claim 25 wherein the surface of the reflector comprises a plurality of surface elements.
45. The electronic display of claim 25 further comprising a optical conduit disposed between the light source and the reflector.
46. The electronic display of claim 45 wherein the optical conduit comprises a lens internally formed therein.